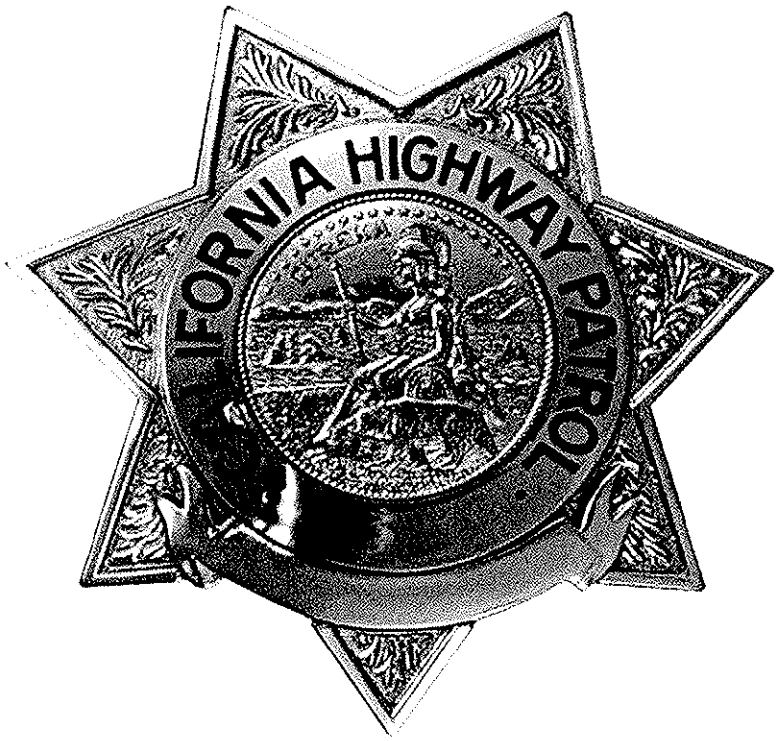
California Highway Patrol

Information Technology Capital Plan



2009-10 through 2013-14

Information Technology Capital Plan, Plan Year 2009-10 through 2013-14 Executive Approval Transmittal

Department Name

CALIFORNIA HIGHWAY PATROL

APPROVAL SIGNATURES

I am submitting the attached Information Technology (IT) Capital Plan as required by the State Administrative Manual Section 4904.

I certify that the IT Capital Plan was prepared in accordance with State Information Management Manual Section 57 and that the proposed IT projects are consistent with our business strategies and information technology strategy.

I have reviewed and agree with the information in the attached IT Capital Plan.

Chief Information Officer	Date Signed
Printed name: Reginald Chappelle, Chief	9-9-08
Information Security Officer	**Date Signed**
Printed name: Walter Kendricks	9/11/08
Budget Officer	**Date Signed**
Printed name: Mieko Epps	9/12/08
Department Director	**Date Signed**
Printed name: J. A. Farrow, Commissioner	9/15/08

DEPARTMENT INFORMATION TECHNOLOGY (IT) CAPITAL PLAN

Department Name and Org Code:	Plan Year:
California Highway Patrol 2720	2009-10 through 2013-14

1. Summarize your organization's business goals and objectives below:

The California Highway Patrol (CHP) is a department in state government within the Business, Transportation, and Housing (BTH) Agency. Its primary responsibility is providing traffic safety and service to the motoring public as they use the state's highway transportation system. As a statewide criminal justice agency, the CHP also provides law enforcement assistance to local governments and allied agencies when situations exceed the limits of local resources. The CHP serves as the leader for statewide vehicle theft prevention and recovery efforts, and is the primary authority for enforcing laws and regulations relating to commercial vehicle safety and the commercial vehicle industry. In addition, the CHP is responsible for providing security and protective services to elected state officials, state government employees, and state facilities.

The mission of the CHP is to provide the highest level of safety, service, and security to the people of California. This is accomplished through five departmental goals:

- **Prevent Loss of Life, Injuries, and Property Damage:** To minimize the loss of life, personal injury, and property damage resulting from traffic collisions through enforcement, education, and engineering. To enforce the provisions of the California Vehicle Code and other laws to prevent crime.
- **Maximize Service to the Public and Assistance to Allied Agencies:** To maximize service to the public in need of aid or information, and to assist other public agencies when appropriate.
- **Manage Traffic and Emergency Incidents:** To promote the safe and efficient movement of people and goods throughout California, and to minimize exposure of the public to unsafe conditions resulting from emergency incidents and highway impediments.
- **Protect Public and State Assets:** To protect the public, their property, state employees, and the state's infrastructure. To collaborate with local, state, and federal public safety agencies to protect California.
- **Improve Department Efficiency:** To continually look for ways to increase the efficiency and/or effectiveness of departmental operations.

2. What are your organization's plans to upgrade or replace your IT infrastructure for the following? When responding, please indicate the timeframes of your intended upgrade or replacement efforts.

2.1. Hardware

The CHP does not plan to make significant changes to its installed base of computer hardware during the next five years. The major focus will be one of consolidation, storage efficiency, and disaster recovery.

Specific hardware changes are expected in the following areas:

- Workstations and laptops: CHP will continue to annually replace an average of 20-25% of its installed desktop personal computer (PC) infrastructure. This refresh process is necessary due to the lack of technical support and operating system security patches for outdated PCs, the high cost of maintaining old equipment, and

new technologies requiring more sophisticated features and functionalities. **(Project is annual)**

- Relocation: As part of the current relocation of Sacramento-based CHP offices to a central location, some additional hardware is contemplated. Primarily, in planning for the new computer room, CHP staff will take advantage of consolidation of the existing server farms and in making the technical operation (electric, HVAC, etc.) more efficient by reducing the overall footprint of installed computer equipment. **(Project over next two years)**
- Centralization/consolidation: The Department intends to consolidate and centralize its existing and proposed data processing requirements into centralized, standardized, and open database environments. The plan would encompass Microsoft Access, Oracle, and Structured Query Language (SQL) server database environments. As these servers are upgraded, larger, faster, and fewer servers will be procured and deployed. This consolidation effort will enable Information Management Division (IMD) to continue to expand its use of existing software tools without a significant procurement of additional licenses or further expansion of computer hardware. Using virtual server technology, CHP will support development, test, and production environments on a single server. This effort will reduce the computer room rack space, power, operating system, and database software licenses currently required in support of CHP server applications. **(Project complete 2010)**
- Storage Area Network (SAN) deployment: CHP is consolidating computer disk storage using SAN disk technology. The SAN technology provides a common disk storage facility for all deployed servers. Small SAN devices will be deployed in the eight Division offices. In addition, a large SAN device as well as two smaller SAN devices will be installed within CHP's computer room. The larger SAN will also support Network Attached Storage capabilities to provide additional storage for servers that are not consolidated in the server consolidation effort. The use of SAN disk storage significantly reduces the number of disk arrays deployed per facility. It also makes more disk storage available and using SAN data software tools, significantly improves administrative issues related with data backup, replication, data recovery, and security. **(Project complete 2009)**
- Backup: CHP is consolidating its various backup systems into a consolidated enterprise backup environment utilizing Symantec NetBackup. This application will enable IMD to support multiple backup hardware platforms throughout the state and yet monitor and manage the backups from a single location. The consolidated enterprise backup environment will enable backups to be done to tape and SAN disk storage. **(Project complete 2009)**
- Computer Aided Dispatch (CAD): CHP, with the approval and oversight of the Department of Finance, is in the process of replacing the existing, antiquated CAD system. This project began in response to the aging CAD and lack of safety enhancing features in the current CAD application. The servers and workstations supporting the mission critical function of entering 911 calls into the CAD system and dispatching CHP officers are becoming too old to be reliable and too outdated to be maintained. All CAD servers and workstations are now between 10 and 14 years old. The server and workstation hardware cannot be updated without extensive changes to the existing proprietary, custom-written, CAD software. This project will procure a commercial-off-the-shelf (COTS) CAD (hardware and software) before the existing hardware (both servers and workstations) fails. **(Project complete 2011)**

- Warm site: CHP is in the process of developing a Feasibility Study Report (FSR) to install an alternate computing facility in an existing CHP, remote location as a backup to the Sacramento-based computer room. This project will acquire additional application servers, a SAN appliance, a backup library, and network communications circuits. All equipment will be a duplicate of existing hardware and located in a warm site which will serve as an alternate computer room in case of a Sacramento or CHP-based disaster that makes the current production facility inoperable. **(Project over next two years)**

2.2. Software

The CHP does not plan to significantly alter its existing software portfolio over the next five years. However, CHP expects to continue to upgrade existing software to the latest, supported releases; reduce the number of internally supported products; and acquire system monitoring tools to more effectively monitor the existing computing environment. In addition, as identified in the IT Strategic Plan, CHP will acquire and/or develop software applications which support its vital business operations.

Business Applications: CHP expects to continue its migration away from legacy, mainframe based systems to open, web-based user applications. In addition, application replacement will be focused on COTS products for applications such as CAD, Records Management System (RMS), and Automated License Plate Recognition (ALPR). **(Various projects planned over the next five years)**

Development resources will also be assigned to the following infrastructure applications:

- Windows-Message Switching System screens: As the new CAD system replaces the existing message switch utilizing the Stratus devices, a replacement system must be in place to pass information to legacy applications (Management Information System of Terminal Evaluation Records [MISTER], Personnel Action Request, CHP 215 [Notice to Appear], and CHP 555 [Traffic Collision Report] entry, etc.). This project will replace the Management Information System (MIS) data entry screens with an Internet browser screen. **(Project complete 2009)**
- FormFlow: This project will migrate existing CHP forms written in the FormFlow application to the latest generation, Adobe Reader Extensions application. **(Project complete 2009)**
- Geographic Information System (GIS): This effort is the creation of a GIS which will include spatial business rules, topologic relationships, and database table structures which will ensure that GIS features are capable of creating valid CAD geofiles in a timely, manageable, and accurate fashion. This project will provide the foundation for the use of enterprise GIS solutions including the implementation of data management procedures and GIS standards to support CHP's business needs. **(Project complete 2010)**

Systems Software: CHP will develop and implement plans to research, test, and deploy upgrades/replacements to the operating systems currently used on desktop PCs and system servers. Specific operating software improvements are contemplated for:

- Windows NT **(Retire next two years)**
- Windows 95 **(Retire next two years)**
- Netware 6.0 **(Retire next two years)**
- Soleris 2.6 **(Retire next two years)**
- Vista O/S **(Explore next two years)**
- Netware 6.0 **(Develop replacement strategy next two years)**

- ZOS Stratus **(Retire next three years)**
- Windows Server 2000 **(Retire next three years)**
- Windows 2008 **(Explore next four years)**
- Linux SLED 10 **(Explore next four years)**

2.3. Network

The CHP does not plan to make significant changes to its Local Area Network/Wide Area Network (LAN/WAN) configurations during the next five years. However, as part of the relocation of Sacramento-based CHP facilities to a central location, the LAN/WAN support equipment will be consolidated, streamlined, and made more environmentally efficient. Communications circuit capacity will be increased to provide better system throughput and more efficient backup and/or replication protection. **(Various projects planned over next five years)**

Specific network improvements include:

- 10-net project: This project will migrate all internal servers from CHP public addressing to internal addressing. Eliminating public-routable addresses on the internal network enhances network security by providing an additional layer of concealment. Using a 10-net address scheme provides the ability to have many more devices on the network. Additionally, this project will enhance network stability and throughput by simplifying routing tables and routing updates. **(Project complete 2009)**
- Comm-Net replacement: This project will provide a process and procedure to replace administrative messages currently being sent via the Comm-Net, with the GroupWise e-mail system. **(Project complete 2008)**
- Internet circuit to Department of Technology Services: This project will upgrade the existing 10 Mb/s primary Internet circuit with 3 Mb/s backup circuits to a 25 Mb/s primary Internet circuit with a 10 Mb/s backup circuit. **(Project complete 2009)**
- Video technologies: CHP will expand its use of video technologies by providing in-vehicle and in-helicopter video capture, transmission, and storage of images. Expanded surveillance video capture and storage will be initiated. The CHP will also expand its use of networked video training and video conferencing. **(Project complete 2010)**
- WAN bandwidth expansion: Several initiatives are necessary to ensure adequate network transmission speed. First, will be an increase to the total WAN bandwidth in the network core as current lines are oversubscribed. Second, is the implementation of quality of service (QoS) on the network to ensure that CAD and other mission critical applications get priority across the network. Third, monitoring tools are necessary to ensure the network QoS deployment is properly functioning and to assist in applying modifications to enhance service. **(Project complete 2009)**

3. Existing Approved Reportable IT Projects

See Table 1 - Existing Approved Reportable IT Project Summary by Department

4. Proposed IT Projects

See Table 2 – Proposed IT Project Summary

Table 1-Existing Approved Reportable IT Projects Summary by Department

Existing IT Project	Approved Project Cost*	Project Number	Implementation Date
CAD Replacement Installation	$23,033,257	2720-88	2011
CAD Replacement Installation Special Project Report	$15,800,846	2720-88	2011

***Note:** If a Special Project Report (SPR) was submitted for review in July 2008 that includes project costs that differ from the last approved project document, enter both the last approved project cost and the revised project cost from the SPR under review.

Table 2-Proposed IT Project Summary

Proposed IT Project	Priority Ranking	FSR Submission Date	Estimated Total Cost
IT Infrastructure Recovery	1	November 2008	$3,027,942
Allied Agency Collision Reports	2	July 2008	$1,000,000
Statewide Wireless Connectivity	3	January 2009	$4,615,000
Automated License Plate Recognition	4	April 2008	$3,709,500
Statewide Automated Citation System	5	July 2008	$22,156,010
Records Management System	6	July 2008	$29,431,069

PROPOSED IT PROJECTS (IT Infrastructure Recovery)

4.1. Proposal name and priority ranking:

Name: IT Infrastructure Recovery

Priority: 1

4.2. Description of the proposed IT project:

The purpose of this project is to establish a permanent warm site for computer operations in the case of an emergency which renders the X Street building inoperable. The project will create a disaster recovery alternate processing room within an existing, separate CHP facility. This warm site will provide for the rapid recovery of computer systems as identified in the CHP Operational Recovery Plan and could sustain mission critical CHP technology operations for an indefinite period of time.

4.3. Which of your department's business goals and objectives does this project support, and how?

This project directly supports all five CHP business goals. Within CHP, technology is playing an ever-increasing role in providing services to the internal business processes used by CHP employees, for the day-to-day enforcement activities of the officers in the field, and in providing data to allied agencies and the public. IT supports all levels of program operations, from traffic enforcement to commercial vehicle inspection. Without a doubt, current and planned projects will increase the Department's reliance on technology. Every officer, whether in headquarters or the field, is now using technology during the execution of his/her duties.

IMD delivers robust technology services to assist CHP in meeting its business mission. IMD service delivery per CHP goal is summarized below.

- CHP Goal - Prevent Loss of Life, Injuries, and Property Damage: IT supplies the tools, hardware, and communications infrastructure to support the CHP in the execution of its duties. Dispatching services, emergency alerts, in-car equipment, radios, cell phones, on-line data applications all directly support the officer in day-to-day enforcement activities. Computer and telecommunications systems such as CAD, voice communications (VHF, UHF and wireless), the MIS network, and e-mail are all supported, monitored, and enhanced by IMD personnel.
- CHP Goal - Maximize Service to the Public and Assistance to Allied Agencies: Data is a key component of this goal. IT supports the CHP by providing technical services, applications, websites, and data in support of the public's requests for information. Specific applications such as the CHP144 System (Hospitalized/In-Custody Tracking System), MISTER, voice recording, and Emergency Alert are created and supported by IMD.
- CHP Goal - Manage Traffic and Emergency Incidents: Many forms of communications are key elements for the CHP to be successful with this business goal. IMD supports several voice and data communications networks, emergency alert systems, MIS network for statewide communications centers, and the CAD system which all play a vital role in managing traffic and emergency incidents.
- CHP Goal - Protect Public and State Assets: The Computer Crimes Investigation Unit within IMD investigates any computer related incident where state assets and personnel are involved. In addition, this unit provides security procedures and intelligence information to agencies/departments within state government. The Computer Security Incident Reporting System application plays an important role in

managing and tracking computer security incidents which is supported by IMD personnel.

- CHP Goal - Improve Department Efficiency: Reducing the use of legacy computer systems, implementing new technologies, practicing business process re-engineering when designing new computer systems, implementing scalable computer hardware, and exercising organizational flexibility are examples of how IMD supports this CHP mission.

It can be seen that IT is a full-time, high priority service within CHP. Without reliable, 24x7 computing services, CHP would find it difficult, if not impossible, to meet any of its stated business goals. This project provides a high level of certainty to computer operations within CHP by establishing a backup facility should the current environment fail to operate or should the Sacramento region face a regional emergency causing the closure to the current computer room. In any state emergency, the use of computer systems becomes even more important, therefore, providing a backup facility for computer operations is critical to the operation of CHP and, most importantly, the well-being of the citizens of the state.

4.4. What are the expected business outcomes or benefits of the proposal as they relate to your organization's business goals and objectives?

- Provides an alternate processing site for CHP operations should the X Street facility fail.
- Provides for the ongoing operation of CHP business critical systems in case of a disaster affecting the X Street facility.
- Utilizes existing CHP facilities at no additional cost to IMD.
- Replicates existing computer functionality which provides an opportunity for future load balancing and mirrored data processing.
- Minimizes the implementation process as the warm site replicates existing hardware/software.
- Addresses state, federal, and independent audit findings relative to IMD's disaster recovery planning activities.
- Ensures on-going processing capabilities for CHP in case of a Sacramento-centered regional disaster.
- Provides for a secure computer room under the control of CHP personnel.

4.5. The following are from the State's IT strategic plan. Check the appropriate box(es) to identify the goals this proposal supports:

☒ Supporting and enhancing services for Californians and businesses
☒ Enhancing information and IT security
☐ Reducing state operational costs (leveraging, consolidation, new technology, etc.)
☒ Improving the reliability and performance of IT infrastructure
☐ Enhancing human capital management
☒ Supporting state and agency priorities and business direction

4.6. Is the proposal consistent with your organization's Enterprise Architecture?

☒ Yes
☐ No

If no, please explain why the deviation from the organization's Enterprise Architecture is necessary.

4.7. Will the proposed system collect, store, transmit, or exchange confidential or sensitive information?

☒ **Yes**
☐ **No**

4.8. If this proposal is conceptually approved, what is the estimated date (mm/yyyy) the FSR will be submitted?

11/2008

4.9. What is the estimated project start date (mm/yyyy) if the FSR is approved?

08/2009

4.10. What is the duration of the proposed project?

Eight months

4.11. Will the proposed project utilize the existing infrastructure?

☒ **Yes**
☐ **No**

If no, please explain.

4.12. Is the proposal related to another proposal or to an existing project?

☒ **Yes**
☐ **No**

If yes, describe the related proposal or project and how it is related:

The CAD project (2720-88) includes an operational recovery system that will be located at the warm site to support CAD disaster recovery processing.

4.13. Describe the consequences of not doing this proposed project at the planned timeframe:

This project is critical to the ongoing operation of CHP technology systems. A loss of computer resources is only a matter of time. As more and more reliance is placed on the use of technology, the more important adequate disaster recovery facilities become. Any extended outage may adversely affect CHP emergency response and corresponding mitigation procedures. In addition, federal funding for CHP programs may be put in jeopardy should requirements for disaster facilities not be met.

4.14. Check the appropriate box(es) to identify the proposal's funding strategy:

☒ **Augmentation needed**
☒ **Redirection of existing funds**
☐ **Other (describe):**

4.15. What are the estimated cost and funding source(s) by fiscal year through implementation (information should be provided in the following format):

Fund Source**	2009-10	2010-11	2011-12	2012-13	2013-14 and future	Total
General Fund						
Federal Fund						
Special Fund* Motor Vehicle Account (MVA) (shared by all BTH Agency Departments)		$3,027,942				$3,027,942
Total		$3,027,942				$3,027,942

*** Note: Identify the fund source and if the department is the sole user of the fund.**
**** Note: Estimated costs do not include existing (re-directed) funds.**

PROPOSED IT PROJECTS (Allied Agency Collision Reporting)

4.1. Proposal name and priority ranking:

Name: Allied Agency Collision Reporting (AACR)

Priority: 2

4.2. Description of the proposed IT project:

All law enforcement agencies are mandated by the California Vehicle Code Section 20008 and Section 20011 to send collision and fatality information within a prescribed timeframe to the Statewide Integrated Traffic Records System (SWITRS), which is housed, maintained, and supported by the CHP. Currently, all law enforcement agencies send their information as paper format to CHP where the information is processed manually by CHP's Support Services Section. The manual data entry, analysis, and validation process to enter collision data into SWITRS is both time and resource intensive. Due to subsequent mandatory staffing reductions and budget cuts, this business operation is understaffed to handle the current workload, thereby creating an approximate six-month backlog for data input of the AACR transaction data into the SWITRS database. This backlog results in unreliable statistical reporting, impacting the ability to make timely decisions related to public highway safety.

The AACR project will set up a mechanism whereby CHP and allied agencies can efficiently transmit the collision and fatality data electronically to SWITRS. This electronic transmission and submission of the collision and fatality data will not only eliminate errors in the manual data collection process, but it will reduce the redundant data entry by allied agencies and by CHP personnel into multiple systems; reduce the number of human resources on manual data entry, mail processing, and data validation by CHP personnel; and reduce the duration of time to transmit and submit the data from allied agencies into the SWITRS database.

In addition to automating an electronic process to transmit allied agencies' SWITRS data to the SWITRS database, CHP will normalize the SWITRS data and system tables, incorporate the data elements into a data dictionary, create and maintain an entity relationship document, and standardize stored procedures, triggers, and enterprise views. In order to provide an error-free data repository, a set of web services will be built to provide error management processes to ensure accurate and integral data are input into the SWITRS database.

4.3. Which of your department's business goals and objectives does this project support, and how?

CHP Goal - Maximize Service to the Public and Assistance to Allied Agencies

CHP Goal - Improve Department Efficiency

This project's primary goal is to have access to more timely and accurate collision data which will improve the efficiency and effectiveness of engineering, enforcement, education, legislation, and policy decisions that contribute to traffic safety throughout California.

Secondarily, this project will increase the timeliness of data entry into the SWITRS database, in order to improve allied agencies' ability to respond to public safety issues related to traffic collisions. It will reduce the number of resources necessary to ensure accurate and timely data is entered into the SWITRS database. And finally, this project will reduce the cost and overhead required to process allied agency collision reports within the SWITRS database.

4.4. What are the expected business outcomes or benefits of the proposal as they relate to your organization's business goals and objectives?

The business objectives of this project are to:

1. Increase the timeliness of data entry into the SWITRS database, in order to improve allied agencies' ability to respond to public safety issues related to traffic collisions.
2. Reduce the number of resources necessary to ensure accurate and timely data is entered into the SWITRS database.
3. Reduce the cost and overhead required to process allied agency collision reports within the SWITRS database.

Some of the anticipated programmatic benefits of the proposal include reduction in the backlog of collision reports. The electronic transmission of collision reports will improve the productivity and efficiency, reduce the staffing needed for data entry of reports into SWITRS, and reduce the staffing needed to address errors or incomplete reports, by electronically validating business rules upon submission. This will also improve the quality and timeliness of reports. This reduces the number of errors associated with the manual data entry process thereby increasing the data accuracy. One other benefit of the proposal is that it creates a technical framework for future projects associated with providing electronic data capture from allied agencies.

4.5. The following are from the State's IT strategic plan. Check the appropriate box(es) to identify the goals this proposal supports:

- ☒ **Supporting and enhancing services for Californians and businesses**
- ☐ **Enhancing information and IT security**
- ☒ **Reducing state operational costs (leveraging, consolidation, new technology, etc.)**
- ☐ **Improving the reliability and performance of IT infrastructure**
- ☒ **Enhancing human capital management**
- ☒ **Supporting state and agency priorities and business direction**

4.6. Is the proposal consistent with your organization's Enterprise Architecture?

- ☒ **Yes**
- ☐ **No**

If no, please explain why the deviation from the organization's Enterprise Architecture is necessary.

4.7. Will the proposed system collect, store, transmit, or exchange confidential or sensitive information?

- ☒ **Yes**
- ☐ **No**

4.8. If this proposal is conceptually approved, what is the estimated date (mm/yyyy) the FSR will be submitted?

07/2008

4.9. What is the estimated project start date (mm/yyyy) if the FSR is approved?

11/2008

4.10. What is the duration of the proposed project?

Four years

4.11. Will the proposed project utilize the existing infrastructure?

☒ **Yes**
☒ **No**

If no, please explain.

This project will utilize the existing CHP infrastructure to access the current SWITRS Oracle database. However, this project will also build an electronic data interface between the allied agencies and the SWITRS database through the use of a web service acting as a middle tier for data/rules validation. The use of web technologies is expected to overcome any issues related to divergent technologies used by allied agencies and the CHP. This solution allows for maximum flexibility in integrating with a wide variety of technological platforms currently existing in allied agencies.

4.12. Is the proposal related to another proposal or to an existing project?

☒ **Yes**
☐ **No**

If yes, describe the related proposal or project and how it is related:

This project is similar to an internal CHP California Automated Reporting System (CARS) to SWITRS system that provides for the automatic upload of CHP 555 data to the SWITRS Oracle database.

4.13. Describe the consequences of not doing this proposed project at the planned timeframe:

Any delay in the project implementation could jeopardize the availability of the Office of Traffic Safety (OTS) grant. In addition, the backlog of collision reports will continue to be in excess of six months. This delay in entry of collision data may prevent the CHP and state from improving the safety of the roads for the motoring public as data analysis of collision reports is a primary tool used to prevent future fatal collisions.

4.14. Check the appropriate box(es) to identify the proposal's funding strategy:

☐ **Augmentation needed**
☒ **Redirection of existing funds**
☒ **Other (describe):** OTS Grant - TR-0809

4.15. What are the estimated cost and funding source(s) by fiscal year through implementation (information should be provided in the following format):

Fund Source**	2009-10	2010-11	2011-12	2012-13	2013-14 and future	Total
General Fund						
Federal Fund 408 Grant	$250,000	$250,000	$250,000	$250,000		$1,000,000
Special Fund*						
Total	$250,000	$250,000	$250,000	$250,000		$1,000,000

*** Note: Identify the fund source and if the department is the sole user of the fund.**
**** Note: Estimated costs do not include existing (re-directed) funds.**

PROPOSED IT PROJECTS (Statewide Wireless Connectivity)

4.1. Proposal name and priority ranking:

Name: Statewide Wireless Connectivity

Priority: 3

4.2. Description of the proposed IT project:

CHP maintains approximately 2,600 Mobile Digital Computers (MDC) in vehicles throughout the state. The MDCs are used for computer applications such as the mobile CAD and CARS which provides for the electronic entry and uploading of data from several CHP forms (collision, arrest, and timekeeping) by officers in the field.

For high-speed mobile connectivity, each MDC is equipped with a cellular modem. This modem should allow any MDC application to remotely access central computing resources. But, currently only the CAD application can access central resources through the mobile link. The mobile CAD application communicates with the central CHP network through a custom (CHP written) MDC server that allows CAD commands to be sent back and forth to the MDC. For CHP to use new, advanced applications such as a RMS, improved network connectivity to MDCs will need to be established.

This project creates a mechanism to communicate with each vehicle's MDC through a standard mechanism instead of through the custom MDC server. The cellular modem and other wireless protocols need to be used to provide network services to the MDC, allowing other applications to speak wirelessly, and seamlessly, to central databases – as a part of the CHP WAN.

4.3. Which of your department's business goals and objectives does this project support, and how?

CHP Goal - Prevent Loss of Life, Injuries, and Property Damage

CHP Goal - Maximize Service to the Public and Assistance to Allied Agencies

CHP Goal - Improve Department Efficiency

The primary CHP business goal supported by this project is to improve departmental efficiency. The current method of manually transferring information from the MDC to headquarters databases is cumbersome and inefficient. An electronic link would be faster, less prone to errors, and allow the officer in the field to spend all his available time addressing other CHP goals (Prevent Loss of Life, Injuries, and Property Damage, Maximize Service to the Public and Assistance to Allied Agencies).

Another improvement in departmental efficiency includes the automatic security upgrades which would be automatically downloaded from the CHP network to the MDC and the elimination of manual application patches to the MDC software.

Perhaps most importantly, this project would allow the officers in the field to access additional software applications from the MDC which, in turn, would allow them to access more data. This expanded access can easily translate into the prevention of loss of life or injury, and improve office safety. The more information available at the scene, the more prepared an officer will be to handle the situation safely.

4.4. What are the expected business outcomes or benefits of the proposal as they relate to your organization's business goals and objectives?

The objectives of this project are to solve the following business problems:

Increase productivity by eliminating manual data transfer methods: The first objective of this project is to increase officer productivity by eliminating the need to manually transfer electronic documents from CARS to paper documents in a CHP Area office. Writing data to a removal storage device, walking the data into an Area office, logging onto the CHP network, running an application to read the removable storage device, and printing a paper copy of a CHP document to hand to a supervisor for review adds time to the workload of each officer in the field.

Provide timely data: The second objective of this project is to improve the overall timeliness of data contained in various system databases. As information is gathered in the field, the officer will be directly updating the CHP information repositories. This real-time data entry will improve the currency of information used by CHP and allied agencies in preventing loss of life, injuries, and property damage.

Eliminate the security risk caused by unpatched MDCs: The third objective of this project is to reduce the security risk raised by unpatched MDCs. The MDCs need to be connected to the CHP network and become part of the standard monthly patching cycle thereby reducing the staff time associated with manually updating the MDCs.

Reduce the time it takes to update MDC applications: The fourth objective of this project is to reduce the staff-time spent updating applications that run on the MDCs, such as CARS. When a new release of CARS is sent to the field, it takes three to four months to update all the MDCs. When a new release of a desktop application is sent to desktop computers that are attached to the network, each user receives the updated version the next time they log-on the system – without IT workers manually updating each desktop.

Allow real-time applications to be installed on MDCs: The fifth objective of this project is to provide the infrastructure needed to support real-time MDC applications. Without network connectivity, MDC applications cannot access central databases. This project will provide seamless wide area connectivity to mobile devices for future applications.

4.5. The following are from the State's IT strategic plan. Check the appropriate box(es) to identify the goals this proposal supports:

- ☒ **Supporting and enhancing services for Californians and businesses**
- ☒ **Enhancing information and IT security**
- ☐ **Reducing state operational costs (leveraging, consolidation, new technology, etc.)**
- ☐ **Improving the reliability and performance of IT infrastructure**
- ☒ **Enhancing human capital management**
- ☒ **Supporting state and agency priorities and business direction**

4.6. Is the proposal consistent with your organization's Enterprise Architecture?

- ☒ **Yes**
- ☐ **No**

If no, please explain why the deviation from the organization's Enterprise Architecture is necessary.

4.7. Will the proposed system collect, store, transmit, or exchange confidential or sensitive information?

☒ Yes
☐ No

4.8. If this proposal is conceptually approved, what is the estimated date (mm/yyyy) the FSR will be submitted?

01/2009

4.9. What is the estimated project start date (mm/yyyy) if the FSR is approved?

01/2010

4.10. What is the duration of the proposed project?

One year

4.11. Will the proposed project utilize the existing infrastructure?

☒ Yes
☐ No

If no, please explain.

4.12. Is the proposal related to another proposal or to an existing project?

☐ Yes
☒ No

If yes, describe the related proposal or project and how it is related:

4.13. Describe the consequences of not doing this proposed project at the planned timeframe:

This project is designed to improve overall Department efficiency relative to the use of MDCs and the access to information from the patrol cars. Delaying this project delays the improvement of Department operations and the ready access to information which may endanger the public and CHP officers in the field.

4.14. Check the appropriate box(es) to identify the proposal's funding strategy:

☒ **Augmentation needed**
☐ **Redirection of existing funds**
☐ **Other (describe):**

4.15. What are the estimated cost and funding source(s) by fiscal year through implementation (information should be provided in the following format):

Fund Source**	2009-10	2010-11	2011-12	2012-13	2013-14 and future	Total
General Fund						
Federal Fund						
Special Fund* MVA (shared by all BTH Agency Departments)		$4,615,000				$4,615,000
Total		$4,615,000				$4,615,000

*** Note: Identify the fund source and if the department is the sole user of the fund.**
**** Note: Estimated costs do not include existing (re-directed) funds.**

PROPOSED IT PROJECTS (Automated License Plate Recognition)

4.1. Proposal name and priority ranking:

Name: Automated License Plate Recognition (ALPR)

Priority: 4

4.2. Description of the proposed IT project:

As mandated under Executive Order D-52-86, the CHP is responsible for the suppression of vehicle theft and the apprehension of vehicle thieves throughout the state. Acting under this mandate, the CHP recognized the need to find a solution to combat the ongoing vehicle theft problem. The need to detect wanted vehicles traveling on state highways is critical to a reduction of vehicle theft, along with maximizing the arrests of vehicle thieves and the recovery of stolen vehicles. Using traditional means to detect wanted vehicles has not provided the necessary results.

The current system of detecting wanted vehicles is limited to the CHP officer printing a list of wanted vehicle license plates (a list which could contain more than 500,000 entries at any given time), carrying that list while on patrol, and manually comparing the license plates of encountered vehicles with those on the list. Alternately, the officer could utilize the services of a CHP dispatcher or MDC terminal to check the status of a suspected wanted vehicle. Using either of these methods is limited to checking the status of only those vehicles an officer is physically capable of observing. In heavy or even moderate traffic conditions, the number of vehicles can be overwhelming.

In October 2003, the CHP initiated a pilot project to develop and deploy mobile and fixed ALPR systems in a select number of locations. For the project, CHP purchased mobile license plate reading equipment from PIPS Technology, Inc. To date, in cooperation with the National Insurance Crime Bureau, the CHP has deployed 16 mobile license plate reader units and four fixed license plate readers in areas throughout the state. The network management system, which supports the mobile systems, currently contains in excess of one million records and is an essential component of the overall system.

In 2005 and 2006, CHP had approximately 2,500 patrol units in service (enforcement sedans, plus enforcement motorcycles). Using 2,500 patrol units, CHP was able to recover 29,763 stolen vehicles, for a per unit recovery rate of almost 12 stolen vehicles recovered per patrol unit. In 2006, during the ALPR pilot using 16 patrol units and three fixed site locations, CHP recovered 770 stolen vehicles for a per unit recovery rate of 41 stolen vehicles recovered per patrol unit. The ALPR patrol units increased the annual recovery rate per patrol unit over 241 percent.

This project intends to expand upon the original 2003 pilot project and purchase commercially available mobile and fixed ALPR systems for use throughout the state.

4.3. Which of your department's business goals and objectives does this project support, and how?

The CHP business goals directly supported by this project are:

CHP Goal - Prevent Loss of Life, Injuries, and Property Damage

CHP Goal - Protect Public and State Assets

To fulfill this mission, the CHP must deploy thousands of peace officers to patrol the state's highway transportation system. These officers respond to more than 11,000,000 emergency calls per year of all imaginable variety. In addition to handling the millions of emergency calls, officers are required to engage in proactive law enforcement in an effort to prevent the loss of

life and prevent crimes. Officers are faced with uncommon levels of stress due to the wide range of tasks they are required to perform which necessitates the call for exceptional support tools.

The CHP has developed a strategic plan to aid in the accomplishment of the Department's mission. A key element of the strategic plan is to reduce instances of vehicle theft by maximizing arrests of vehicle thieves and the recovery of stolen vehicles throughout California. In order to accomplish this task, new methods of detection must be developed and implemented.

The CHP has the responsibility to increase officer and public safety when safety enhancing tools are commonly available in the market place. The current method of identifying wanted vehicles and potential perpetrators is inefficient allowing an unknown number of vehicles and suspects to escape detection. Allowing wanted suspects to remain at large when advanced methods of detection are commonly available is in violation of public safety.

4.4. What are the expected business outcomes or benefits of the proposal as they relate to your organization's business goals and objectives?

The CHP currently employs antiquated, cumbersome, and extremely inefficient methods to recognize and detect stolen/wanted vehicles. Therefore, the most important benefit of this project is the CHP will be able to automate the vital function of stolen/wanted vehicle detection which will result in a reduction of vehicle theft by maximizing arrests of vehicle thieves and the recovery of stolen vehicles throughout California. Other public and officer safety benefits are:

- **Increased Efficiency** - An officer will no longer be required to actively scan through a sea of traffic to identify suspected wanted vehicles. The ALPR system automates this function by using a series of cameras, or similar devices, to read every license plate that surrounds a patrol vehicle or passes a fixed location. The ALPR system is dedicated to the task of reading license plates and no license plate that enters into the system's field of view escapes detection. An officer is not capable of performing a similar function. This automation frees the officer to concentrate on other law enforcement duties and responsibilities, increasing the officer's overall efficiency.
- **Instantaneous Notification** - Traditionally an officer must observe evidence or possible indicators of vehicle theft and then verify the status of the vehicle through dispatch. However, with the use of ALPR technology the officer initially will no longer be required to expend valuable time verifying the status of a suspected wanted vehicle. The ALPR system, after reading a license plate, instantly compares the read license plate against a list of over 500,000 wanted vehicles and will alert the officer if the detected vehicle provides a match. The notification does not rely upon the use of radio frequency clearance, cellular coverage, or other means. The notification is provided whether an officer is engaged in another law enforcement function, while driving, or while stationary.
- **Increased Stolen/Wanted Vehicle Recoveries** - By its nature, the ALPR system will increase the likelihood of recovering stolen or wanted vehicles. Since very few vehicles escape detection from the system's dedicated watchful eye, the percentage of recoveries will increase. This alone will save citizens thousands of dollars each year as insurance companies will no longer be required to pay out losses. Additionally, increasing the recovery of stolen vehicles directly correlates to the Department's mission to protect the public and their property.
- **Increased Apprehension of Vehicle Thieves and Other Wanted Persons** - Increasing the recovery rates of stolen and wanted vehicles will increase the probability of apprehending vehicle thieves and other wanted suspects, including Amber Alert suspects. The ALPR system detects wanted vehicles that enter into the system's view. An officer that

may be preoccupied with another task will be alerted to a wanted vehicle and a potential suspect where the vehicle and suspect may have otherwise eluded detection. The officer would be able to take the appropriate enforcement action as a result.

- **Money Savings** - Analysis of the pilot data projects that the proposed solution will save the residents of California nearly $50,000,000 in stolen vehicles. This is calculated by extrapolating the trend from the pilot data. The pilot of 16 mobile ALPR and three fixed ALPR units recovered stolen vehicles with a Kelly Blue Book value of $5,837,911. It is reasonable to estimate that the proposed solution of an additional 140 mobile ALPR units and two fixed ALPR units will recover a total value of stolen vehicles that is nearly 10 times the pilot value.

4.5. The following are from the State's IT strategic plan. Check the appropriate box(es) to identify the goals this proposal supports:

☒ **Supporting and enhancing services for Californians and businesses**
☐ **Enhancing information and IT security**
☐ **Reducing state operational costs (leveraging, consolidation, new technology, etc.)**
☐ **Improving the reliability and performance of IT infrastructure**
☐ **Enhancing human capital management**
☒ **Supporting state and agency priorities and business direction**

4.6. Is the proposal consistent with your organization's Enterprise Architecture?

☒ **Yes**
☐ **No**

If no, please explain why the deviation from the organization's Enterprise Architecture is necessary.

4.7. Will the proposed system collect, store, transmit, or exchange confidential or sensitive information?

☒ **Yes**
☐ **No**

4.8. If this proposal is conceptually approved, what is the estimated date (mm/yyyy) the FSR will be submitted?

04/2008

4.9. What is the estimated project start date (mm/yyyy) if the FSR is approved?

01/2010

4.10. What is the duration of the proposed project?

Two years

4.11. Will the proposed project utilize the existing infrastructure?

☒ **Yes**
☐ **No**

If no, please explain.

4.12. Is the proposal related to another proposal or to an existing project?

☐ **Yes**

☒ No

If yes, describe the related proposal or project and how it is related:

4.13. Describe the consequences of not doing this proposed project at the planned timeframe:

A delay in the implementation of this project will prevent CHP from decreasing the number of wanted vehicles in the state, improving public and officer safety statewide, increasing the number of stolen vehicle recoveries, and increasing the apprehension of vehicle thieves.

4.14. Check the appropriate box(es) to identify the proposal's funding strategy:

☒ **Augmentation needed**
☐ **Redirection of existing funds**
☐ **Other (describe):**

4.15. What are the estimated cost and funding source(s) by fiscal year through implementation (information should be provided in the following format):

Fund Source**	2009-10	2010-11	2011-12	2012-13	2013-14 and future	Total
General Fund						
Federal Fund						
Special Fund* MVA (shared by all BTH Agency Departments)		$3,709,500				$3,709,500
Total		$3,709,500				$3,709,500

* **Note: Identify the fund source and if the department is the sole user of the fund.**
** **Note: Estimated costs do not include existing (re-directed) funds.**

PROPOSED IT PROJECTS (Statewide Automated Citation System)

4.1. Proposal name and priority ranking:

Name: Statewide Automated Citation System (SACS)

Priority: 5

4.2. Description of the proposed IT project:

In 2004 and 2005, the CHP conducted a project with grant funds on behalf of the Ventura and Los Angeles (LA) County courts. This project was to conduct a pilot of an automated citation device (ACD) system. The objectives of the ACD project were limited to deploying an automated citation solution to CHP officers within the Ventura and LA Counties and transmit traffic citations to the Ventura and LA County courts electronically.

The Post Implementation Evaluation Report (PIER), prepared by the Ventura County courts, declared the project a success because the very limited objectives of the project were met. The project's objectives did not, however, include the electronic transmission of CHP 215 data to existing systems within the CHP.

The pilot system had problems with the stability of the back-end database processes; this caused a high-degree of maintenance and numerous calls from the courts to resolve data transmission failures. The system also utilized custom front-end hardware that was costly to repair and difficult to replace.

In October 2007, OTS approved a grant for the purposes of producing an automated citation system for the CHP that includes the electronic transmission of CHP 215 data to all California judicial jurisdictions.

A COTS software solution will be acquired utilizing a competitive bid process. The selected COTS software solution, in conjunction with an acquired wireless handheld device, will serve as the initial data capture point with officers in the field. The data will be transmitted electronically to a centralized enterprise database where it will be maintained for statistical and managerial purposes, and appropriate data will be transmitted to the CHP MIS electronically.

The data will also be transmitted to an automated communication backbone developed by the Administrative Office of the Courts (AOC) and maintained by the California Courts Technology Center. The Integrated Service Backbone (ISB) will then conduct a data validation. All accepted records will then move through the California Courts Case Management System to the appropriate judicial jurisdiction's database.

4.3. Which of your department's business goals and objectives does this project support, and how?

CHP Goal - Maximize Service to the Public and Assistance to Allied Agencies

CHP Goal - Improve Department Efficiency

These CHP business goals are directly supported by:

- Reducing data entry into multiple systems
- Improving transaction accuracy through electronic data validation
- Improving the timeliness of notices to appear (CHP 215)
- Increasing the timeliness of transmitting data to the courts
- Improving the accuracy of data within CHP's managerial statistics systems
- Developing and deploying a SACS to all CHP Area offices in all judicial jurisdictions

- Reducing the processing time of traffic enforcement citations from an average of seven days to an average of two days within all California judicial jurisdictions.

4.4. What are the expected business outcomes or benefits of the proposal as they relate to your organization's business goals and objectives?

There are three primary business problems this project seeks to address. They are:

1. Decrease the time necessary to transmit citations to the courts, in order to allow more time for the courts to communicate the public's roles, responsibilities, and duties concerning the proper handling and disposition of the citation.
2. Improve the accuracy and completeness of CHP 215 documentation and limit the inefficient and error prone second tier data entry that currently occurs within the Area offices.
3. Reduce or eliminate duplicate data entry of CHP 215 records.

4.5. The following are from the State's IT strategic plan. Check the appropriate box(es) to identify the goals this proposal supports:

☒ **Supporting and enhancing services for Californians and businesses**
☐ **Enhancing information and IT security**
☒ **Reducing state operational costs (leveraging, consolidation, new technology, etc.)**
☐ **Improving the reliability and performance of IT infrastructure**
☒ **Enhancing human capital management**
☒ **Supporting state and agency priorities and business direction**

4.6. Is the proposal consistent with your organization's Enterprise Architecture?

☒ **Yes**
☐ **No**

If no, please explain why the deviation from the organization's Enterprise Architecture is necessary.

4.7. Will the proposed system collect, store, transmit, or exchange confidential or sensitive information?

☒ **Yes**
☐ **No**

4.8. If this proposal is conceptually approved, what is the estimated date (mm/yyyy) the FSR will be submitted?

07/2008

4.9. What is the estimated project start date (mm/yyyy) if the FSR is approved?

07/2009

4.10. What is the duration of the proposed project?

Five years

4.11. Will the proposed project utilize the existing infrastructure?

☒ **Yes**
☐ **No**

If no, please explain.

4.12. Is the proposal related to another proposal or to an existing project?

☒ **Yes**
☐ **No**

If yes, describe the related proposal or project and how it is related:

The AOC's Electronic Citations (eCitations) project, which is the vehicle for deploying the ISB, must meet the following objectives in order for the SACS project to be successful:

- Publish a single extensible markup language (XML) data transmission model for citations coming to the AOC. This model will be based on the next generation of the Global Justice XML Data Model, called National Information Exchange Model.
- The AOC will use a virtual statewide repository by linking to each of the courts for statewide data views.
- Process all citations through a data exchange layer within their ISB.
- Perform data validation for all incoming transactions. However, the AOC will share the validation rules with the CHP so the SACS solution can ensure the transactions submitted are clean.

The CHP, the state's law enforcement community, and the public would be best served through a close collaboration on these projects. The result of this collaboration will be no less than an effective integration of data processing systems within the law enforcement and adjudication arena.

4.13. Describe the consequences of not doing this proposed project at the planned timeframe:

Any delay in the project implementation could jeopardize the availability of the OTS grant. Additionally, a delay may severely impact the success of the AOC's eCitations project.

4.14. Check the appropriate box(es) to identify the proposal's funding strategy:

☒ **Augmentation needed**
☒ **Redirection of existing funds**
☒ **Other (describe):** OTS Grant - TR-0810

4.15. What are the estimated cost and funding source(s) by fiscal year through implementation (information should be provided in the following format):

Fund Source**	2009-10	2010-11	2011-12	2012-13	2013-14 and future	Total
General Fund						
Federal Fund 408 Grant		$598,000	$728,000	$1,235,711		$2,561,711
Special Fund* MVA (shared by all BTH Agency Departments)		$1,730,000	$12,666,677	$5,197,622		$19,594,299
Total		$2,328,000	$13,394,677	$6,433,333		$22,156,010

*** Note: Identify the fund source and if the department is the sole user of the fund.**
**** Note: Estimated costs do not include existing (re-directed) funds.**

PROPOSED IT PROJECTS (Records Management System)

4.1. Proposal name and priority ranking:

Name: Records Management System (RMS)

Priority: 6

4.2. Description of the proposed IT project:

The purpose of this project is to purchase a COTS RMS for the CHP. The project will automate the central storage of data from the most common forms in use at CHP. The review and approval of these forms will be electronic. In addition to the automation of forms, the RMS will support the following functionality:

- Investigative Case Management - this module will allow electronic case management of investigations, with CHP forms linked to the appropriate case folder.
- Property and Evidence - this module will track the inventory evidence accumulated for a case and properly link the evidence with the case.
- Field Contacts - this module will track all field contacts CHP wants to enter, making them available to all RMS users.
- Management Reporting - this module will produce numerous pre-written reports and allow CHP to perform ad hoc queries to obtain other information. This functionality will replace most of the reports created by the current MIS application (sometimes called Matrix Reporting).
- Indexing - this module (or base functionality of an RMS) will index (i.e. cross-reference) all persons, vehicles, and locations entered into the RMS for use in reports and investigations.
- CHP144 System - the new RMS will need to replace the current functionality of the CHP144 system that tracks hospitalized and or in-custody persons.
- Uniform Crime Reports (UCR) - the new RMS will create CHP's required UCRs automatically.

4.3. Which of your department's business goals and objectives does this project support, and how?

CHP Goal - Maximize Service to the Public and Assistance to Allied Agencies: One of the largest changes in law enforcement in the last few years is the recognition of the importance of sharing data between law enforcement agencies. The tragic events on September 11, 2001, and the subsequent investigation drew attention to the need for allied law enforcement agencies to share information. The implementation of an enterprise RMS will enable CHP to quickly and more easily share data with allied agencies.

CHP Goal - Manage Traffic and Emergency Incidents: Officer safety is paramount. The implementation of an RMS will provide officers in the field more data from which they can make decisions allowing them to decide upon a course of action that provides the safest path to perform their jobs. Below are two examples of how an RMS can increase officer safety.

1. Currently, CHP officers cannot know if a vehicle has been stopped previously by a CHP officer unless the data has already been uploaded to a national database. An RMS will provide a statewide field interview database of all contacts that will capture all CHP encounters, even if they do not require uploading to a national crime database.
2. An RMS will track warnings given to drivers, not just citations. The fact that a warning has been issued to a vehicle during the same trip can alert subsequent officers that

something is wrong and caution may need to be exercised. The RMS access by vehicles in the field will provide this data to officers.

CHP Goal - Protect Public and State Assets: CHP's ability to protect public and state assets would be enhanced by the analysis of existing data. CHP's lack of a central data repository of operational information eliminates CHP's ability to establish baseline crime data and perform an analysis of the data. Below are two examples of value of analyzing operational data.

1. Criminal activity often produces a pattern that can assist in the investigation. The implementation of an RMS would allow investigators to search and analyze relevant data to increase the efficiency of an investigation.
2. Geo-spatial analysis of law enforcement data can reduce collisions. In an RMS, investigators can view all traffic collisions by location to see where changes need to be made.

CHP Goal - Improve Department Efficiency: Improvements in CHP efficiency due to the implementation of an RMS will be numerous. Below is a partial list of the efficiency gains CHP will experience.

1. Currently, several CHP reports (forms) are keyed into more than one system that do not communicate with other systems. This is the effect of implementing simple, local database applications, instead of an enterprise RMS. With the implementation of an RMS, reports will be keyed once and available for retrieval or printing from any authorized user.
2. Due to the fact that the highest volume reports created by CHP officers in the field require key data entry by additional CHP personnel (not the officer who wrote the form), errors are introduced as data entry personnel try to read the handwriting of officers who are writing in adverse, and often dangerous, conditions.
3. With the implementation of an RMS, supervisor review and approval of reports will be handled electronically. The current method of requiring an officer to submit a paper copy of a report to their superior, and for the supervisor to manually edit and return the paper copy to the officer, causes unnecessary delays in the process.
4. CHP's attempts to automate the workload of officers without implementing an enterprise database have produced unconnected, single user, databases of information spread across hundreds of CHP offices. Silos of disconnected information cannot be searched or aggregated to provide meaningful information. The implementation of an enterprise RMS will eliminate the local databases allowing search, retrieval, and aggregation of CHP statewide data to authorized users.

4.4. What are the expected business outcomes or benefits of the proposal as they relate to your organization's business goals and objectives?

The most important benefit of this program is that CHP will be better able to meet its mission of safety, security, and service to the people of California. Additionally, the RMS will directly benefit the officers by increasing their safety as they encounter dangerous people in their daily work. However, other important benefits of the RMS project include:

- CHP will meet the following mandates:
  - Collision reports will be submitted on time
  - Collision reports will be immediately available across the state
  - National Crime Information Center hits will be confirmed within 10 minutes
- Departmental efficiency will be increased by reducing:
  - Redundant data entry

        - Inconsistent data
        - Paper-based review and approval
        - Silos of data
    - Assistance to allied agencies:
        - Homeland Security requests can be processed
        - Information can be shared with allied agencies
    - Increased protection of public and state assets:
        - Crime analysis will help investigators
        - Verbal warnings in a database will catch repeat offenders
    - Increased officer safety:
        - Location history will prepare an officer for dangerous situations
        - Field interview cards in a database will warn officers of impending danger
    - Documents are created, read, edited, and stored electronically. Space can be saved, providing significant cost savings.
    - Productivity can be increased:
        - Templates can be used to produce new documents with a few keystrokes
        - Editing, data collation, mathematical manipulations, and other tasks can be completed in less time
    - Better customer service:
        - Records can be accessed faster than paper records and by multiple users simultaneously
        - Requests for information can be answered without delay
        - Users could read records anywhere in the state at any hour of the day
    - An RMS can put time-sensitive, critical information (local criminal warrants, nationwide felony warrants, driver license data, tag information, and stolen property listings) at the officers' immediate disposal.

4.5. The following are from the State's IT strategic plan. Check the appropriate box(es) to identify the goals this proposal supports:

☒ **Supporting and enhancing services for Californians and businesses**
☐ **Enhancing information and IT security**
☒ **Reducing state operational costs (leveraging, consolidation, new technology, etc.)**
☒ **Improving the reliability and performance of IT infrastructure**
☒ **Enhancing human capital management**
☒ **Supporting state and agency priorities and business direction**

4.6. Is the proposal consistent with your organization's Enterprise Architecture?

☒ **Yes**
☐ **No**

If no, please explain why the deviation from the organization's Enterprise Architecture is necessary.

4.7. Will the proposed system collect, store, transmit, or exchange confidential or sensitive information?

☒ **Yes**
☐ **No**

4.8. If this proposal is conceptually approved, what is the estimated date (mm/yyyy) the FSR will be submitted?
07/2008

4.9. What is the estimated project start date (mm/yyyy) if the FSR is approved?
07/2009

4.10. What is the duration of the proposed project?
Five years

4.11. Will the proposed project utilize the existing infrastructure?
☒ **Yes**
☐ **No**
If no, please explain.

4.12. Is the proposal related to another proposal or to an existing project?
☐ **Yes**
☒ **No**
If yes, describe the related proposal or project and how it is related:

4.13. Describe the consequences of not doing this proposed project at the planned timeframe:
The RMS project would assist CHP in meeting legal mandates, increasing departmental efficiency, providing assistance to allied agencies, increasing the protection of public and state assets, and increasing officer safety. Any delay in starting this project is simply compounding the delivery of these services to the citizens of California.

4.14. Check the appropriate box(es) to identify the proposal's funding strategy:
☒ **Augmentation needed**
☒ **Redirection of existing funds**
☐ **Other (describe):**

4.15. What are the estimated cost and funding source(s) by fiscal year through implementation (information should be provided in the following format):

Fund Source**	2009-10	2010-11	2011-12	2012-13	2013-14 and future	Total
General Fund						
Federal Fund						
Special Fund* MVA (shared by all BTH Agency Departments)	$980,000	$8,040,963	$10,201,288	$6,193,081	$4,015,737	$29,431,069
Total	$980,000	$8,040,963	$10,201,288	$6,193,081	$4,015,737	$29,431,069

*** Note: Identify the fund source and if the department is the sole user of the fund.**
**** Note: Estimated costs do not include existing (re-directed) funds.**

Enterprise Architecture

A.1. Does your organization have documented Enterprise Architecture principles, strategies, or standards to guide decisions on technology projects?

☒ Yes
☐ No

A.2. Indicate on Table A-1 below, the completion status of the component Reference Models of your formal Enterprise Architecture efforts. If available, please submit a copy of your Enterprise Architecture document.

Table A-1, Enterprise Architecture Completion Status

Component Reference Model	Status			
	Implemented	Implementation in Progress	Planned or Planning in Progress	Not Implemented and Not Planned
Business		√		
Service		√		
Technical		√		
Data		√		

A.3. Describe the governance structure your organization uses to review and approve the Enterprise Architecture and any subsequent changes.

Departmental technology projects, transactions, and resources are either under the specific direction of, or general oversight of, IMD. The IMD commander is the Department's Chief Information Officer and is a member of CHP Top Management.

Formal IT steering committees are not used within CHP. To date, project teams and strong IMD management have been effective in overseeing IT projects. Major IT projects are organized around implementation project teams which are comprised of technologists and end-user personnel. All projects have been reviewed, approved, and prioritized by CHP management. The project teams govern deliverables, escalate issues, and monitor delivery tasks. Each project team operates under formal project management guidelines from initiation through closeout which ensures that all projects are conducted in a disciplined, well-managed, and consistent manner.

A.4. Does your organization have an Enterprise Architect? (if yes, provide their name, telephone number, and e-mail address below)

☒ Yes
☐ No

Name: Carla Simmons

Classification: Senior Information Systems Analyst (Specialist)

Telephone Number: (916) 453-3809 **E-Mail:** csimmons@chp.ca.gov

Information Security

B.1. How is your Information Security Officer involved in proposed project development efforts?

The Information Security Officer (ISO) reviews new and ongoing departmental IT projects to ensure commonly accepted security requirements are met, including analysis of FSRs and PIER. In addition, the ISO serves as a reviewing authority for requests to install modem lines, hardware/software, system upgrades, and new servers affecting network security statewide.

The ISO oversees the Department's Information Privacy Program. In addition, he ensures compliance with policies, guidelines, and procedures regarding the security and protection of all personal, sensitive, and confidential information assets. He also performs audits and evaluates processes to ensure adherence to the Department's Information Privacy Program.

B.2. What are your department's core business principles, policies, and standards related to information integrity, confidentiality, and availability and the protection of information assets?

The state's information assets are an essential public resource. The unauthorized destruction, tampering, modification, deletion, or disclosure of information included in agency files and databases can compromise the integrity of state programs, violate individual rights to privacy, and constitute a criminal act. Accordingly, the CHP takes the responsibility for the proper classification, use, and protection of its automated information. Additionally, the Department has established risk management and disaster recovery planning processes for identifying, assessing, and responding to the risks associated with its information assets.

Employees of the CHP and other authorized computer users are responsible for protecting the Department's IT assets. Highway Patrol Manual (HPM) 40.4, Information Security and Administration Manual, has been developed to provide guidance for the use and protection of these assets.

The CHP is responsible for ensuring its IT assets are protected from damage, destruction, and unauthorized or accidental modification, deletion, access, or disclosure. Pursuant to the requirements of State Administrative Manual Section 5300, et. Al, internal policies and procedures have been established in the following areas:

- Assignment of management responsibilities for IT risk management.
- Appointment of a Department ISO.
- Provision for the integrity and security of automated information produced or used in the course of agency operations.
- Provision for the security of IT facilities, software, and equipment utilized for automated information processing.
- Establishment and maintenance of an IT risk management program.
- Maintenance of a risk analysis process.
- Compliance with the state audit requirements relating to the integrity of information assets.
- Compliance with state reporting requirements.
- User training in state security requirements.

Information Security

B.3. If data within your department is shared with external entities, does your department implement data exchange agreements with these entities?

☒ Yes
☐ No
If no, please explain.

☐ Not applicable

B.4. How does your department ensure that software developers and programmers follow standards and best practices for Web, application, and system development?

Within IMD, the Application Services Group (ASG) is responsible for the development of business application software solutions for CHP. The Group manager along with the unit supervisors are responsible for the application of best practices, standard procedures, and structured development methodologies as described in Appendix D, question 7.

B.5. Does your organization have an Information Security Officer? (if yes, provide their name, telephone number, and e-mail address below)

☒ Yes
☐ No

Name: Walter Kendricks

Classification: Information Security Officer

Telephone Number: 916-657-7958 **E-Mail:** wkendricks@chp.ca.gov

Workforce Development, Workforce Planning and Succession Planning

C.1. Does your organization have a workforce development plan for IT staff?

☒ **Yes**
☐ **No**

If yes, briefly describe it.

The CHP Personnel Management Division is responsible for all departmental personnel services, including selection and promotional examinations for uniformed and nonuniformed classifications; recruitment; disability and retirement benefits; workers' compensation; injury and illness case management; Department's classification plan; and employee assistance programs.

- **Disability and Retirement Section** is responsible for assisting commands in the role of proper injury and illness case management. This includes workers' compensation, return-to-work, limited duty, fitness for duty, medical personnel actions, retirement benefits, and reinstatement requests. In addition, the section is responsible for the Employee Assistance Unit which provides a number of services to departmental employees and their families.
- **Personnel Services Section** is responsible for providing personnel-related services to commands and departmental employees, and is responsible for administering policy and programs related to issues such as attendance, payroll, appointments, separations, uniformed transfer and promotions, employee benefits, position control, workers' compensation, and employee identification cards.
- **Selection Standards and Examinations Section** is responsible for coordinating the Department's recruitment, cadet selection, departmental examinations, selection research, selection development, and managing the Department's classification plan, Conflict of Interest Program, and competing personnel-related special projects.

The CHP has developed and enforces specific workforce development programs. The procedures to be used by CHP commands are documented in CHP HPMs or within the CHP Commissioner's General Orders (GO). Specific policies and procedures for workforce development activities include:

- **GO 10.6, Field and Headquarters Assignments and Transfers Non-Uniformed Employees** – The provisions of this order apply to assignments and transfers of non-uniformed personnel to and from Areas, Divisions, communications centers, sections, executive offices, and the Academy, and comply with all existing civil service laws and rules and collective bargaining agreements.
- **GO 10.7, Field and Headquarters Assignments and Transfers Uniformed Employees** – The provisions of this GO apply to assignments and transfers of all uniformed personnel and comply with all existing civil service laws and rules.
- **GO 10.8, Personal Development Considerations for Promotion to Sergeant through Deputy Chief, California Highway Patrol** – The purpose of this GO is to inform departmental personnel of personal development considerations for promotion to uniformed supervisory and management classifications.
- **HPM 10.3, Personnel Transaction Manual** – This manual is intended to keep the staff informed of departmental personnel policies and procedures and to provide a practical guide for accomplishing and documenting personnel actions affecting employee positions, salaries, and status.
- **HPM 10.10, Performance Appraisal Manual** – The objective of this manual is to ensure that performance at least meets departmental standards and to develop the

performance of all CHP employees to full potential. The purpose of a performance appraisal includes:

- To assist supervisors and employees in establishing methods for increasing individual effectiveness.
- To assist each employee on a continuing basis by identifying strengths and weaknesses.
- To systematically record plans and goals set during discussions between employees and supervisors, and to record progress made in reaching those goals in subsequent discussions.
- To evaluate performance of critical job tasks during a prescribed rating period.

- **HPM 10.11, Field Training and Evaluation Program** – The purpose of this manual is to provide direction regarding the Field Training and Evaluation Program for new officers. The program is guided by a job-related, standardized training curriculum and utilizes fair and objective techniques to evaluate and document each trainee's progress.
- **HPM 10.12, Affirmative Action/Equal Employment Opportunity Planning Manual** – The purpose of this manual is to provide guidance and direction to the Department and offer a hands-on resource manual for commanders to utilize in planning affirmative action activities. The objective is to communicate policies, responsibilities, and Department goals that will ensure equal employment opportunities and affirmative action progress for the Department and for all applicants and employees of the CHP.
- **HPM 70.13, Departmental Training Manual** – The purpose of the Departmental Training Manual is to provide guidance and direction for all training efforts conducted by or for the Department and to clarify and consolidate procedures which facilitate the accomplishment of training. The objective is to provide quality service to the public by improving the skills, knowledge, and abilities of the Department employees through a comprehensive and flexible program of training development.

C.2. Check the appropriate box(es) to identify which workforce development tools, if any, your organization is using for IT classifications:

- ☒ **Training**
- ☒ **Upward Mobility**
- ☒ **Mentoring**
- ☒ **Career Assessments**
- ☐ **Knowledge transfer program**
- ☒ **Performance Evaluations**
- ☐ **Other (please list)**

C.3. Does your organization have a workforce plan for IT staff (i.e., for Rank and File)?

- ☐ **Yes**
- ☒ **No**

If yes, briefly describe it.

Workforce Development, Workforce Planning and Succession Planning

C.4. Does your organization have a succession plan for IT staff (i.e., for Management)?

☐ Yes
☒ No

If yes, briefly describe it.

C.5. IT Staffing

Provide the following information in table C-1 on the following page:

- The name of each IT classification currently in the organization.
- The number of staff in each IT classification in the organization.
- The number of staff in each IT classification eligible to retire in the next five years.
- The percentage of each IT classification eligible to retire in the next five years.

Table C-1 — IT Staffing

IT Rank and File Staff Classification	Number of IT Rank and File Staff in Classification	Number of IT Rank and File Staff in Classification Eligible to Retire in Next 5 Years	IT Management Staff Classification	Number of IT Management Staff in Classification	Number of IT Management Staff in Classification Eligible to Retire in Next 5 Years
Sr. Info Sys Analyst (Spec)	2	1	Data Proc Mgr IV	1	1
Sr. Prog Analyst (Spec)	1	1	Data Proc Mgr III	2	2
Staff Info Sys Analyst (Spec)	6	5	Data Proc Mgr II	3	3
Staff Prog Analyst (Spect)	22	17	Data Proc Mgr I	4	3
Assoc Prog Analyst (Spec)	4	3	Sr Info Sys Analyst (Sup)	3	3
Assoc Info Sys Analyst (Spec)	17	6	Staff Info Sys Analyst (Sup)	1	1
Assist Info Sys Analyst (Spec)	13	8	Sys Software Specialist III	1	1
Software Sys Analyst III	1	0			
Software Sys Analyst II	6	5			
Software Sys Analyst I	14	8			
Info Sys Technician	1	0			

Project Management, Portfolio Management and IT Governance

D.1. Does your organization have a process for improving the alignment of business and technology?

☒ **Yes**
☐ **No**

If yes, briefly describe it.

The CHP Agency Information Management Strategy (AIMS) attempts to closely align IT services with CHP business objectives and Department priorities. IT provides a valuable service in meeting the CHP business strategy. It provides the communications infrastructure, technical hardware, application software, technical personnel, and operations support required to meet CHP missions.

Without technology and the use of modern, reliable computer systems, the CHP would find it difficult, if not impossible, to achieve its stated business goals. IMD becomes the enabler and places information and technical services at the right place for the right user. During the annual AIMS development process, IT resources meet with all business units within CHP and discuss upcoming technology projects and initiatives. Those projects are documented within the AIMS and are selected, prioritized, and initiated through management direction that ensures every project supports one, or more, CHP business objectives.

In addition, CHP creates an annual IT Strategic Plan which identifies technology initiatives which are critical to the success of CHP's core business operations. The technology initiatives are those plans, actions, and projects that will make critical contributions to the continued operations and modernization of IT within the CHP operating Divisions. These initiatives typically do not support only one Division or office, but support CHP-wide needs. The purpose of the initiatives is to enhance and advance the adaptation to, and use of, IT to better deliver service to CHP personnel, allied agencies, and the citizens of California. The realization of these initiatives will provide the infrastructure, foundation, and framework upon which to build specific technology systems for individual Division and office requirements. Adoption and implementation of these initiatives will allow the CHP to become more efficient and more effective through the automation of business functions within the Department. All subsequent IT projects must support one, or more, technology initiatives thereby ensuring a close alignment between CHP business goals/objectives and technology activities.

D.2. What is the status of implementing a formal portfolio management methodology for technology projects within your organization?

☐ **Implemented (Please describe)**

☒ **Implementation in progress (Please describe)**

The IMD within CHP is in the process of developing a formal software portfolio management methodology. Draft procedures and inventories of field and headquarters software applications have been created. Technical details of each system are being gathered as time permits with the complete population of the portfolio expected during 2009. The primary objectives of this activity include:

- **Single Point of Data Collection:** All data will be captured electronically at the earliest point within each respective process. There will be no redundant data entry points within any direct interface system. The goal being to improve efficiency by removing secondary data entry from all business processes.
- **Single Source of Management Information:** All information will be maintained in a central location that is available to all Offices of Primary Interest. This will ensure consistency and improve accuracy of information for the purposes of planning and

business process re-engineering. The goal is to improve efficiency by making enterprise data available for access regardless of physical inquiry location.

- **Standardize on Technology Platforms:** All applications will be developed utilizing a standard technology platform (C#.NET) which will limit architectural complexity in order to leverage limited and skilled support resources. Applications will also employ an SQL Server backend. Outward facing web applications will employ JAVA and an Oracle backend for improved flexibility, security, and size. Standardized application components will be written to encourage reuse and speed the development process.

☐ **Planned or planning in progress**

☐ **Not implemented and not planned**

D.3. List any automated tools being used for portfolio management. Enter "None" if no automated tools are being used.
E-Project

D.4. What is the status of implementing a standard project management methodology for technology projects in your organization?
☐ **Implemented (Please describe)**

☒ **Implementation in progress (Please describe)**

CHP is developing and beginning to use an Information Technology Project Management Methodology (IT PMM) that is similar to those commonly used at other California state departments such as the Employment Development Department. The IT PMM incorporates requirements of California state departments, and the control agencies, with the framework presented in "A Guide to the Project Management Body of Knowledge (2000 Edition)," (PMBOK® Guide, 2000), published by Project Management Institute (PMI).

The first section of the IT PMM gives a general overview of concepts commonly found in project management practices and literature which have been adopted as the standard for all IT projects within CHP. The Project Management Overview section defines the concept of a project; introduces the project management methodology; briefly describes the various roles and responsibilities of the parties who contribute to the success of project; and presents organizational structures that are common to the project.

The remaining sections of the IT PMM describe project management artifacts, tools, techniques, and processes that have been adopted by IMD's Information Technology Section. The five sections describe five commonly recognized process groups that include processes that are used, and sometimes reused, throughout the life cycle of a project. The process groups are as follows:

- Initiating processes - authorizing the project or phase.
- Planning processes - defining and refining objectives and selecting the best of the alternative courses of action to attain the objectives that the project was undertaken to address.
- Executing processes - coordinating people and other resources to carry out the plan.

- Controlling processes - monitoring and measuring progress regularly to identify variances from the plan so that corrective action can be taken when necessary to meet project objectives.
- Closing processes - formalizing acceptance of the project or phase and bringing it to an orderly end.

☐ **Planned or planning in progress**

☐ **Not implemented and not planned**

D.5. Does the organization require its project managers to be certified, either through a professional organization (i.e., PMI, ITIL) and/or through completion of specified project management coursework:

☐ **Yes**
- ☐ **PMI**
- ☐ **ITIL**
- ☐ **Agency-specified project management coursework (identify below)**

☒ **No**

However, it should be noted that several CHP managers and IT professionals are currently PMI and Information Technology Infrastructure Library trained and hold corresponding certifications.

D.6. Select from the list other areas of training your organization requires of its project managers:

☐ **Fundamental Project Management**
☐ **Systems Development Life Cycle**
☐ **Scheduling tool (identify below)**
- –
- –

☐ **Project Performance Management (i.e., Earned Value Management)**
☐ **Business Process Analysis**
☐ **Requirements Traceability**
☒ **Procurement/Contracts Management**
☐ **Other (identify below)**
- –
- –

☐ **None**

D.7. Describe project-level governance practices, including change management, issue resolution, and problem escalation.

IMD must ensure that a standard approach to software development is utilized which follows a published standard for the receipt of service requests and corresponding development procedures that adhere strictly to the system development life cycle and puts emphasis on release management. Accordingly, ASG has been developing a complete Configuration Management/Change Control methodology which includes comprehensive software change management procedures.

Project Management, Portfolio Management and IT Governance

These procedures are intended to manage and oversee the specific work of application and system development which is independent of any project management responsibilities. The table of contents from the draft manual demonstrates the detailed processes included in the methodology.

- Prioritizing and Scheduling Service Requests
  - Complete CHP 53, Request for Information Technology Services (RFITS), form
  - Evaluate and prioritize the RFITS
  - Create work order
  - Analyze RFITS
  - Prioritize and schedule RFITS
- Development
  - Create/revise requirements
  - Conduct requirements walk-through/Obtain approval
  - Create/revise specification package(s)
  - Conduct design walk-through/Obtain approval
  - Create or modify source code and documentation
  - Conduct code and documentation walk-through/Obtain input
  - Create/update unit test plan
  - Conduct unit test walk-through/Obtain approval
  - Conduct unit test
  - Correct problem
  - Obtain manager approval
- Testing Process
  - Create/revise Master Test Plan (MTP)
  - Conduct MTP walk-through/Obtain approval
  - Create/revise System Test Plan (STP)
  - Conduct STP walk-through/Obtain approval
  - Create test procedures, detailed actions, and validations
  - Establish system test environment
  - Conduct systems test
  - Validate functional and technical systems test results and documentation
  - Correct problems found in system test
  - Obtain client approval of systems test results
- Implementation Process
  - Create/update implementation plan
  - Conduct implementation plan walk-through/Obtain approval
  - Prepare request for release package
  - Move systems test documents to Definitive Software Library (DSL)
  - Move DSL documents to the Production Library
  - Notify client
  - Replace procedures
  - Run production

- Production Problem Resolution Process
  - Complete problem report
  - Log and assign problem
  - Analyze problem
  - Define problem resolution
  - Move backed up release package from DSL to production
  - Replace procedures
  - Rerun in production
  - Code/Unit test fix
  - System test fix
  - Update documentation
  - Obtain originator acceptance/Update log
  - Log problem
  - Close problem and notify client

D.8. Does the project management methodology include processes for documenting lessons-learned and applying these to future projects?

☐ **Yes (Please describe)**
☒ **No**
Note: Once the PMM is complete, a post-development review and lessons learned process is envisioned and will be added to the CHP application development life cycle.